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A DESCRIPTION

OF SOME

ENGINES AND IMPLEMENTS USED IN HUSBANDRY, &c.

MADE AND SOLD BY

WILLIAM WINLAW, ENGINE-MAKER,

Margaret-Street, Cavendiſh-Square, London.

ALSO A LIST OF

Sundry Improved PLOUGHS, HORSE-HOES, &c. uſed for different Purpoſes in Agriculture,

Which have been repeatedly tried and approved of by the beſt practical Farmers in this Kingdom.

LONDON:
PRINTED FOR W. WINLAW, BY JOHN HAY, No. 4, ANGEL-COURT, OPPOSITE SOMERSET-PLACE, STRAND.
M.DCC.LXXXVI.

[*PRICE ONE SHILLING AND SIX-PENCE.*]

1786

½ of c.s. gilt tops uncut
Stamps blind on side

COMMISSIONERS OF PATENTS FOR INVENTIONS

BRITISH MUSEUM 30 NOV 70

To Noblemen, Gentlemen, Farmers, and Others, who are Encouragers of Improvements in the moſt uſeful Science of Agriculture.

IT has long been the complaint of Gentlemen, who are practical Farmers, that the common method of threſhing corn, is a very incomplete mode of clearing it from the ſtraw, which has induced many ingenious Gentlemen, lovers of Improvements in Huſbandry, to conſtruct divers Machines for that purpoſe, at great pains and expence: Premiums have been offered by the Society for the Encouragement of Arts, Manufactures, and Commerce, in this country, and by moſt Societies in Europe, which have encouraged ſeveral able Mechanics to try experiments by a variety of Engines, conſtructed upon different plans, with intent to compleat one upon a principle of Mechanics, which would effectually anſwer the expectations of Gentlemen who are Encouragers of uſeful Improvements in Agriculture; the ſucceſs of which does not a little depend on having proper Implements planned and well executed, fitting for the various purpoſes practiſed in Huſbandry.

At the particular requeſt of ſeveral Noblemen and Gentlemen, my Employers, I undertook to make a Model of a Threſhing Engine, which Model when tried had not the deſired effect; the plan of which was ſtampers, raiſed by a cylindric ſhaft, ſet with lifters, in a ſpiral form from one end to the other. I alſo made one upon a different plan, with flails, but with no better ſucceſs.

By His MAJESTY's Royal Letters Patent,

A DESCRIPTION *of Wm. WINLAW's* MILL, *made upon a Plan entirely new, for ſeparating the Grain from the Ears of Corn, in Place of Threſhing.*

THIS Mill was tried in June, 1785, in the preſence of many Gentlemen, and gave the greateſt ſatisfaction; and ſince then to a great number of perſons at ſundry times, who all expreſſed great pleaſure at ſeeing a performance ſo compleat, and the Machine conſtructed upon a plan entirely new.

Upon trial there were paſſed through the Mill one buſhel of the heads of wheat in one minute, with very moderate labour to the man that turned it; and, by experiment, it is found that four buſhels of the ears will yield one buſhel of clean grain. This being allowed, the difference will clearly appear betwixt the expedition of the Mill and the labour of a Threſher; allowing that a man will threſh ſix buſhels in a day, of eight hours work; the Mill will clear that quantity in twenty-four minutes, and to an incomparable greater degree of perfection than can poſſibly be done by the flail, for it ſeparates every grain from the ears, which muſt be allowed to be a very great ſaving; whereas much corn flies off by the flail, and a great deal loſt by foul threſhing, either when performed by taſk or day-work; and by uſing the Mill all fraudulent practices will be prevented, the ſtraw is preſerved in its original reed, which muſt anſwer the eſſential purpoſes of thatching, &c. much better than when bruiſed under the flail, and every other purpoſe equally well.

The **IMPROVED COMB** for ſtripping the ears from the ſtraw has been tried; and a lad, without having practiſed, combed out a buſhel of ears in twenty minutes, which is at the rate of ſix buſhels of clean corn for one day's work.

	£.	s.	d.
If women, children, &c. are employed for this purpoſe, at nine-pence per day, the expence of clearing a buſhel of ears from the ſtraw is	0	0	$1\frac{1}{2}$
The Mill clears fifteen buſhels of clean wheat in one hour, but allowing at an average only twelve buſhels, which amounts to ninety-ſix buſhels per day; if the man that works the Mill is paid 16d. a day, the expence of the Mill for one buſhel is — — —	0	0	$0\frac{1}{6}$
Total expence per buſhel	0	0	$1\frac{2}{3}$

	£.	s.	d.
Brought forward, total expence per buſhel	0	0	$1\frac{2}{3}$
But a threſher is paid, for every buſhel he threſhes	0	0	4
There is conſequently ſaved by the Mill, on each buſhel, — — —	0	0	$2\frac{1}{3}$
Which, for ninety-ſix buſhels or one day's work, amounts to — — —	0	18	8
Beſides, the Mill produces one buſhel in ten of clean corn more than what is done by the flail, and valuing a buſhel of wheat at 5s. the advantage gained on the ninety-ſix buſhels will be	2	8	0
The Mill will therefore gain in a day's work	3	6	8

The ſaving of grain by the Mill, is, on account of the quantity flying off from the flail, and what is left in the ſtraw by foul threſhing.

If two lads are employed to ſtrip the ears from the ſtraw, they ſhould clear ſeventy-two buſhels per week, and the Mill will ſeparate the grain from the ears in ſix hours.

The ſaving of corn, by uſing the Mill, in preference to common threſhing, being proved; the ſtraw alſo is in a preferable ſtate after it is cleared of the ears, it needs not be handled a ſecond time to prepare it for the market, as it is all combed clean and fitting for uſe, without any further time being beſtowed in preparing it. The expence of repairing or relaying the barn floors ſhould alſo be a conſideration of the Farmers, which the uſe of the Mill entirely removes, beſides threſhing inſtruments, &c.

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BRITISH MUSEUM 30 NOV 70

Fig. 1.

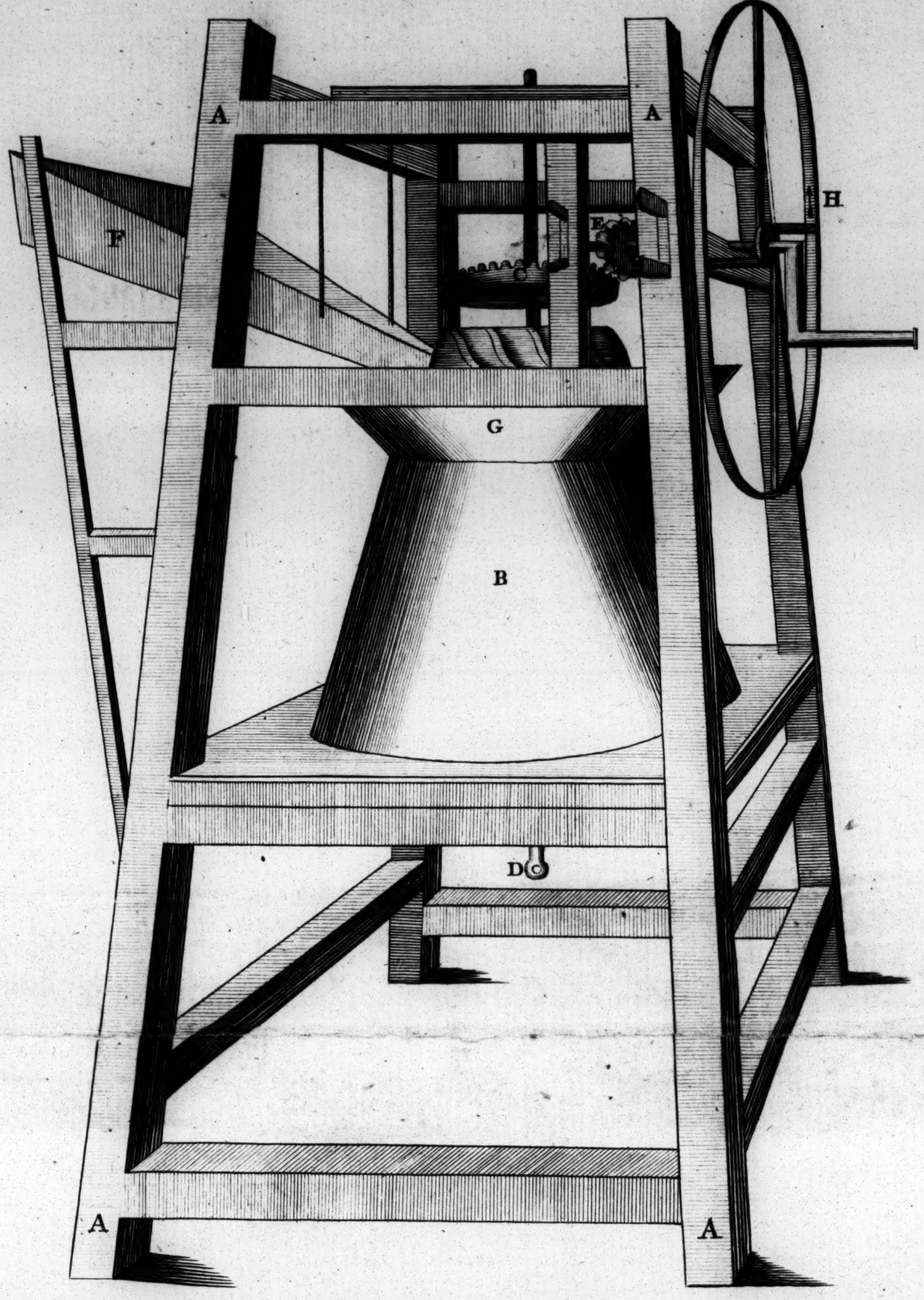

Fig. 2.

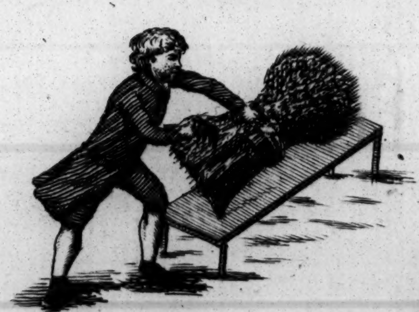

Fig. 3.

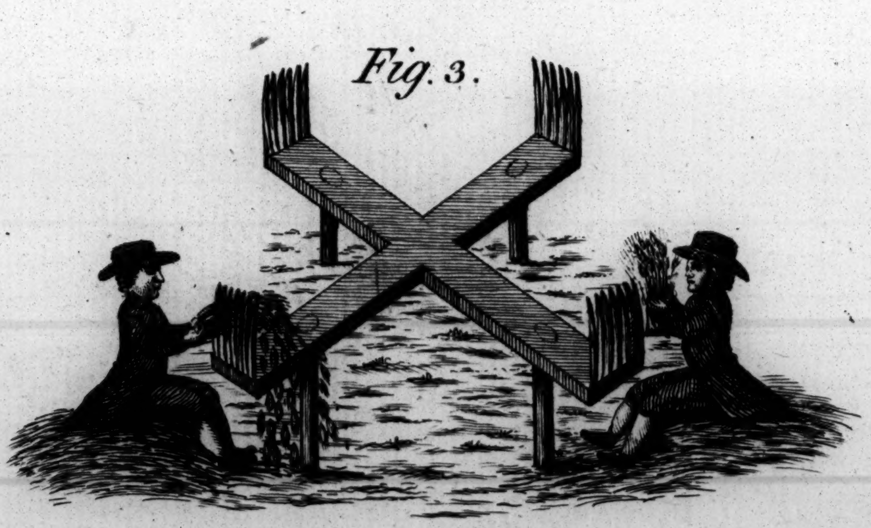

Fig. 4.

Dodds del. Made by Wm Winlaw Engine Maker Margaret Street Cavendiſh Square London. Longmate sculp.

The argument of ſome Farmers, in vindication of the old method of threſhing, is, that the corn which flies off from the flail, and what is left in the ſtraw, is not loſt, as the cattle, hogs, and fowls, eat it; but that kind of argument muſt fail, when the conſumption of the London market for ſtraw is conſidered, and other large cities and towns within the kingdom, ſuch ſtraw being uſed for litter and other purpoſes; therefore corn is equally loſt in all thoſe uſes which ſtraw is put to, as the hogs, fowls, &c. cannot be benefited by it as in the country; and it is reaſonable to ſuppoſe that every induſtrious intelligent Farmer would wiſh to know as near as poſſible the neat produce of his farm, by having his crop clean threſhed, that there is little or none remains in the ſtraw, it may be meaſured out to his ſtock of beaſts, poultry, &c. by ſo doing he will come at the expences he ought to know, and his ſtraw be equally ſerviceable for the various purpoſes it is made uſe of in London or any where elſe.

I have tried the experiment of threſhing the corn clean out from ſeveral truſſes or bundles of ſtraw, and found that a truſs, which weighed thirty-ſix pounds, contained in it two pounds four ounces of wheat, which meaſured (after thoroughly cleared) two pints and a half. Thirty-ſix truſſes are a load, and, according to this experiment, in one load are ninety pints, or five pecks and ten pints, conſequently, in the thouſands of loads conſumed in this metropolis, there is a very great loſs to the community; but the number is beyond my power to aſcertain.

DESCRIPTION *of the* MILL.

IT requires very little practice to enable any perſon to manage the Mill. The dart painted on the fly directs which way to turn the handle, it being pointed as it ſhould be turned. The hopper, which ſerves to feed the Mill, is regulated by the two round pins, to which the cords are fixed. The ſcrew at the bottom of the frame is to adjuſt the diſtance of the inner nutt from the outward cone; for if it is ſcrewed upwards too much it will bruiſe the grain, if lowered down too far it will admit the ears to paſs without effect. The croſs bars, which ſupport the axis on which the fly and pinion are fixed, are moveable upwards and downwards, as occaſion requires. When the ſcrew at bottom is turned to the right it moves the nutt upwards, and gives leſs ſpace. The wedges muſt be ſlackened above, to admit the axel to riſe upward or downward as may be found neceſſary. Theſe wedges may be ſlackened or tightened with great eaſe, and without any danger of injuring the Mill.

REFERENCES *to the annexed* PLATE.

A, A, A, A, the Frame of the Mill.
B, the outward Cone.
C, the large Iron Wheel.
D, the Regulating Screw.
E, the Pinion.
G, the top Curb ſurrounding the Nutt.
H, the Fly.
Fig. 1. the Mill.
2. the Combing the Sheaf.
3. the Comb for ſtripping the Ears.
4. the Hand Comb.

DIRECTIONS *for combing the Bottom of the Sheaves, and ſtripping the Ears from the Straw.*

THE frame of the Comb is made in form of a croſs, with a comb fixed to every limb, that four perſons may work at once if requiſite, according

according to the Figure in the annexed Plate. The teeth or prongs are made of ſteel, and of an angular form, ſet at ſuch convenient diſtances ſo as to ſtrip the ears clean; if ſet too wide apart they will paſs through without effect, and if too near together will not admit the ſtraw to go between.

The Mill, upon a ſmaller ſcale, anſwers equally well for clover-ſeed, the flowers being firſt threſhed off from the ſtems, it will clear as much ſeed from the outward integument or huſk in three hours as a man can perform, in the common mode of threſhing, in one week; for a man cannot clean much above a buſhel in that time. The tedious ſneſs of the operation is an evident reaſon why the ſeed bears ſo high a price; the barn floors are likewiſe quickly deſtroyed by that tedious forcible performance. It alſo anſwers for flax-ſeed, canary, or any other ſmall ſeeds; alſo for ſeparating the huſk from rice, which, by the preſent method in practice, is performed at a great expence of time and hard labour. The ſame methods may be obſerved in regulating the ſmall one for clover-ſeed, as the Corn Mill.

The Mill being capable of theſe performances, as above related, will render it very uſeful to Gardeners, Nurſerymen, Seedſmen, &c. as the whole is performed by one plain conſtructed Machine, which is eaſily managed, and not liable to be out of repair.

The Objection made by ſome Gentlemen, againſt the Mill coming into general uſe, is, their fear of not finding employment for their threſhers.

Answer. If Gentlemen and Farmers pay proper attention to improving their waſte lands, and other neceſſary improvements requiſite in Huſbandry, they will be at no loſs to find employment for their threſhers.

The improvements made of late years in our Cotton Manufactories, by the help of uſeful improved Engines, is ſufficient to confute the notion which many people have, that thoſe improvements are hurtful to the labouring intereſt of the kingdom, when it is plainly proved that the contrary is the fact, many thouſands of poor people being employed by their means, which would not have had it in their power to get employment otherwiſe; conſequently they would have been chargeable to their reſpective pariſhes who now are uſeful Members of Society.

If all men who are capable of combining mechanic powers, ſo as to make uſeful improvements in machines for various purpoſes, ſhould agree in ſentiment with thoſe inconſiderate arguers, who obſtinately perſiſt in uſing only thoſe implements which long cuſtom has rendered moſt familiar to them, there would be a total ſtop put to all Mechanical Improvements whatever; for ſurely no man would be at the expence of time, labour, and materials, in improving or inventing Machines to expedite labour, either in Agriculture or Mechanics, which would ſatisfy the ingenious enquiring part of mankind only, when, by the fallacious arguings of others, they are ſure to be oppoſed, and find only diſappointment in their labour and expence, for the pains taken in endeavouring to ſerve the public; but it frequently happens, that the more utility a new invention is of to the public, the more numerous are its oppoſers; and the Proprietor meets with almoſt inſurmountable difficulties, before thoſe, whoſe benefit it is intended for, will condeſcend to make fair trial of the experiment; the common methods having been ſo long foſtered, renders many uſeful attempts of improvement abortive.

The method I would recommend to Gentlemen, for a proper trial of the comb, is to employ ſome tractable, active perſon, either man or woman, void of prejudice, to practiſe for a month or two together; and in that time they will have, by practice, gained conſiderable experience, and be more active and capable of inſtructing others.

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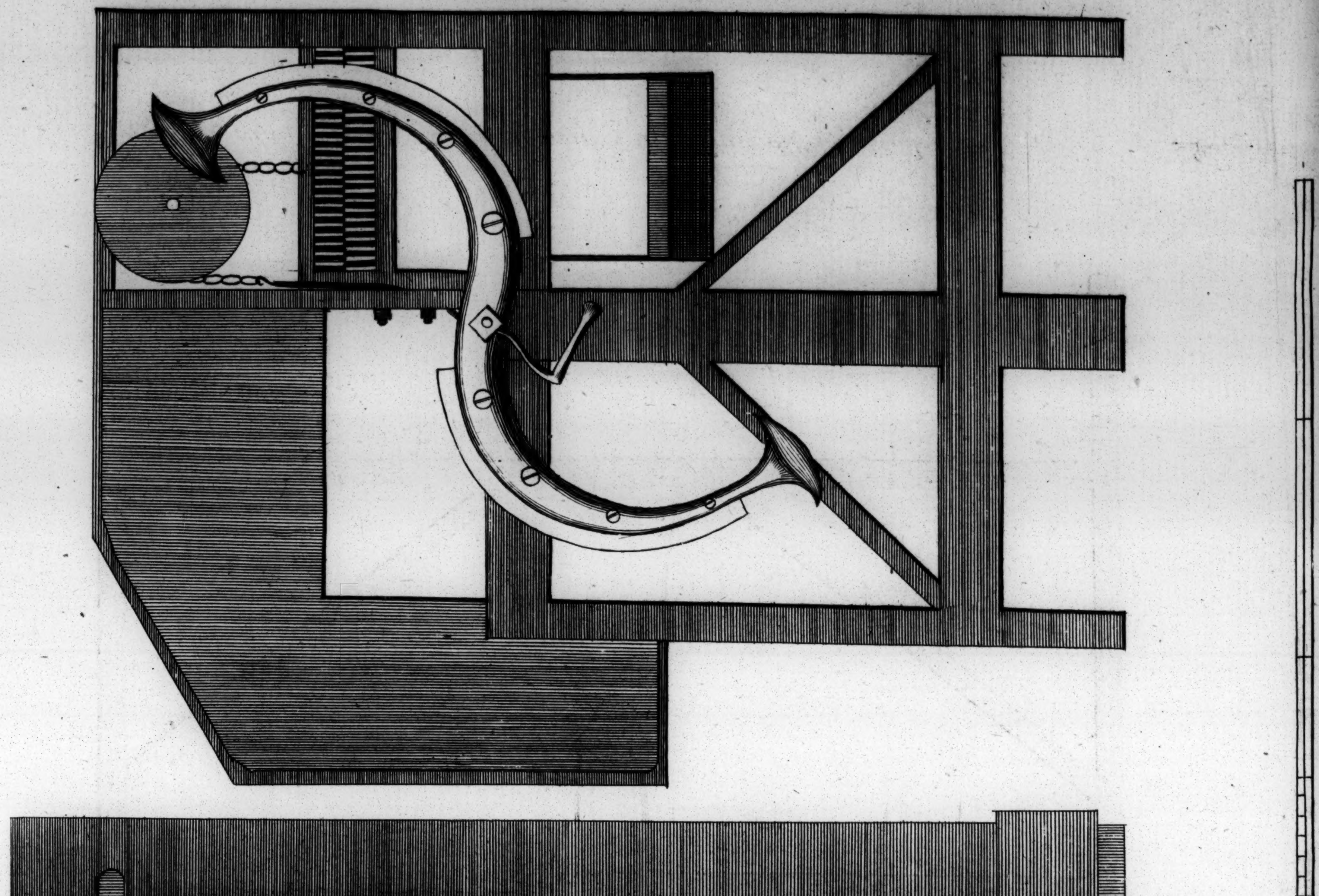


Dodds del. *Made by Wm Winlaw Engine Maker Margaret Street Cavendish Square London.* *Longmate sculp*

I would have put this in practice myſelf, but have not an opportunity, wanting materials.

The Farmers in Devonſhire, and ſeveral other parts of the country, after combing the ſheaves with the hand comb, cut the ears off with a common knife, and find it anſwer their purpoſe, both in reſpect to ſaving corn, and having their ſtraw at once prepared for the various uſes intended. This practice having been long eſtabliſhed amongſt them they find no difficulty in performing the taſk, and it only requires the reſolution of Gentlemen in other counties to oblige their ſervants to conform to the ſame rule, and obey their commands in this and every uſeful improvement in Huſbandry.

The improved Comb will clear three times the quantity in a given time, as can be done by the method practiſed in Devonſhire, which ought to be conſidered as ſufficient encouragement to make trial of the experiment.

DESCRIPTION *of an Engine for ſeparating Corn from the Straw, without ſtripping the Ears off, as is done for the Conical Mill.*

IT is of a very plain conſtruction; the lower platform is of one entire plank, fluted acroſs, with ſmall grooves in the hollows for admitting the grain to fall through, as ſoon as ſeparated from the ears; the upper platform is compoſed of rows of wooden chains, cloſely fitted together in the inſide of a frame, which is loaded with gravel or ſand; the motion is given by a crank, turned by a wheel. The lever over the platform is for raiſing the upper frame occaſionally, to give the perſon which feeds it an opportunity of turning the ſtraw, putting it farther into the frame, or nearer to himſelf, as required; or ſpreading it properly between the two platforms, or rubbing boards. The perſon that turns the handle alſo lifts the upper frame by means of the laver, without ſtopping the motion of the Engine. The bottom of the ſheaves ſhould be combed with the hand comb, as directed for the Conical Mill, and ſpread out on the board in front for that purpoſe, and equally diſtributed between the fluted rubbing boards. There is no neceſſity for putting the ſtraw farther between the boards than the top of the ſheaf where the corn is, by this means the ſtraw will not be bruiſed, the bottom of the ſheaves having firſt been cleared of the refuſe by the hand comb. The iron work, which gives motion to the Engine, ſhould be frequently oiled.

An ENGINE *for cutting* STRAW *for Cattle; alſo* SUGAR CANE TOPS, *&c. which renders it very uſeful for the Sugar Plantations.*

THIS Machine has given entire ſatisfaction, being ſo contrived that it requires no practice to make any perſon perfect in working it, as the whole operation is performed by turning a winch, and can be made to cut the ſtraw to any length required.

I have lately improved this uſeful Machine, and the great demand, both at home and abroad, ſufficiently proves its utility and benefit to the purchaſer.

DIRECTIONS *how to uſe the Straw Cutter.*

Put no more ſtraw in the box at once than will be about two inches and a half thick at the front end, where the two knives are placed. When the ſtraw is within two feet of being worked out, put in a fit quantity of freſh ſtraw, for it is attended with more trouble to put it under the preſſing board, after the ſtraw has been wholly worked out. Obſerve the ſliding rack that moves forward by the turning of the handle; when it is worked up to the end of the box, unhook the turn-buckle, lift up the rack and move it back to the extent of the grooves, which are cut in the hinged board in the inſide of the box, and turn the hooked catch into its place again. Its only uſe is to keep the rack in the worm below, that moves it forward.

An ENGINE *for bruiſing* OATS *and* BEANS, *for Horſes, Malt, &c.*

IT being well known that many horſes, both old and young, ſwallow a great part of the corn given them whole—they cannot receive any nouriſhment from the grains that are unbroke; but when bruiſed in this Machine, it eaſes maſtication, and every grain is prepared for nutrition, conſequently a much leſs quantity will be found ſufficient for the farmer's ſtock of cattle.

This Machine is equally uſeful for bruiſing Malt. By repeated experiments it has been found, that, malt bruiſed is more advantageous than the common method of grinding and flouring, by which a great part is waſted. It is a great deal more expeditious than the common method, and is by no means liable to be out of repair.

DIRECTIONS *how to uſe tho above Engine,*

To bruiſe oats, ſcrew the large roller cloſe up to the ſmall one, and do not feed too faſt from the ſhoe, which you regulate by the pins which have ſtrings fixed to them. When you bruiſe beans, unſcrew the two regulating ſcrews a little, and put the fly in motion with your hand, on account that the rollers are then a little ſpace apart, and will not turn each other before the beans come between them. Feed ſlow and regular at firſt, until you have a little practice, oil the pivets frequently, or the iron will cut the coupling braſſes, and damage the Mill.

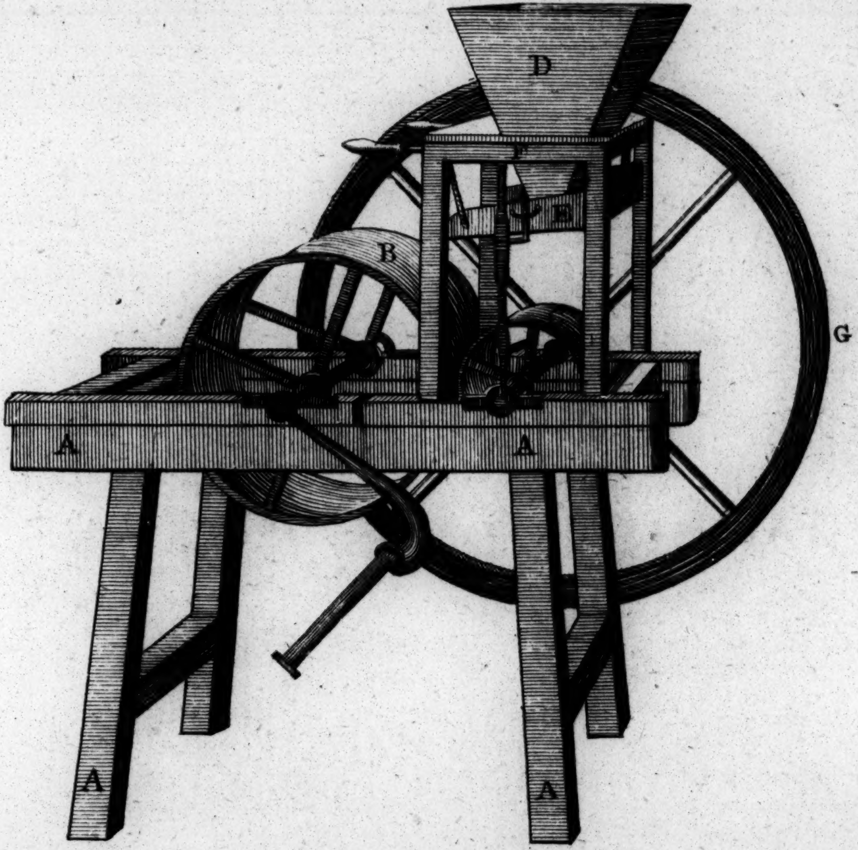
A DESCRIPTION *of the* DRILL PLOUGH, *for ſowing all Kinds of Grain, Seeds, &c.*

THIS Plough makes the furrows at any diſtance required, from four feet to ſix inches, and drops the ſeed regularly in the furrows, at any diſtance required; it ſows, broad-caſt, all ſorts of grain and ſeeds in a very exact manner, far excelling any Drill Plough yet offered to the Public in this country.

This Plough is made on a very plain principle; its mechanical parts conſiſt of two wheels, ſuch as are uſed in the common plough carriages, a cylinder, perforated at proper diſtances, and ſized according to the grain or ſeeds to be ſown, broad-caſt or in drills, and may be ſhifted apart at pleaſure to any required diſtance. The ſhares, which make the furrows to receive the ſeed, are alſo moveable at pleaſure, by unſcrewing the bolts which fix them to the under frame of the Plough; you may then faſten them at what diſtance apart is moſt convenient; and, by removing the center ſhare, the drills may be made the diſtance of the whole width of the frame of the Plough. There are alſo ſmall funnels, fixed below the cylinder, to convey the ſeed into the furrows made by the ſhares, to prevent miſplacing the corn by wind or other accidents. The ſhort handle that is fixed betwixt the handles which the

The Bruising Mill.

AAAA the Frame.
B the large Cylinder.
C the small d°.
D the Hopper.
E the Shoe.
F the Frame that supports the Hopper.
G the Fly.



Dods delin. Made by Wm. Winlaw, Engine Maker, Margaret Street, Cavendish Square London. Longmate sculp.

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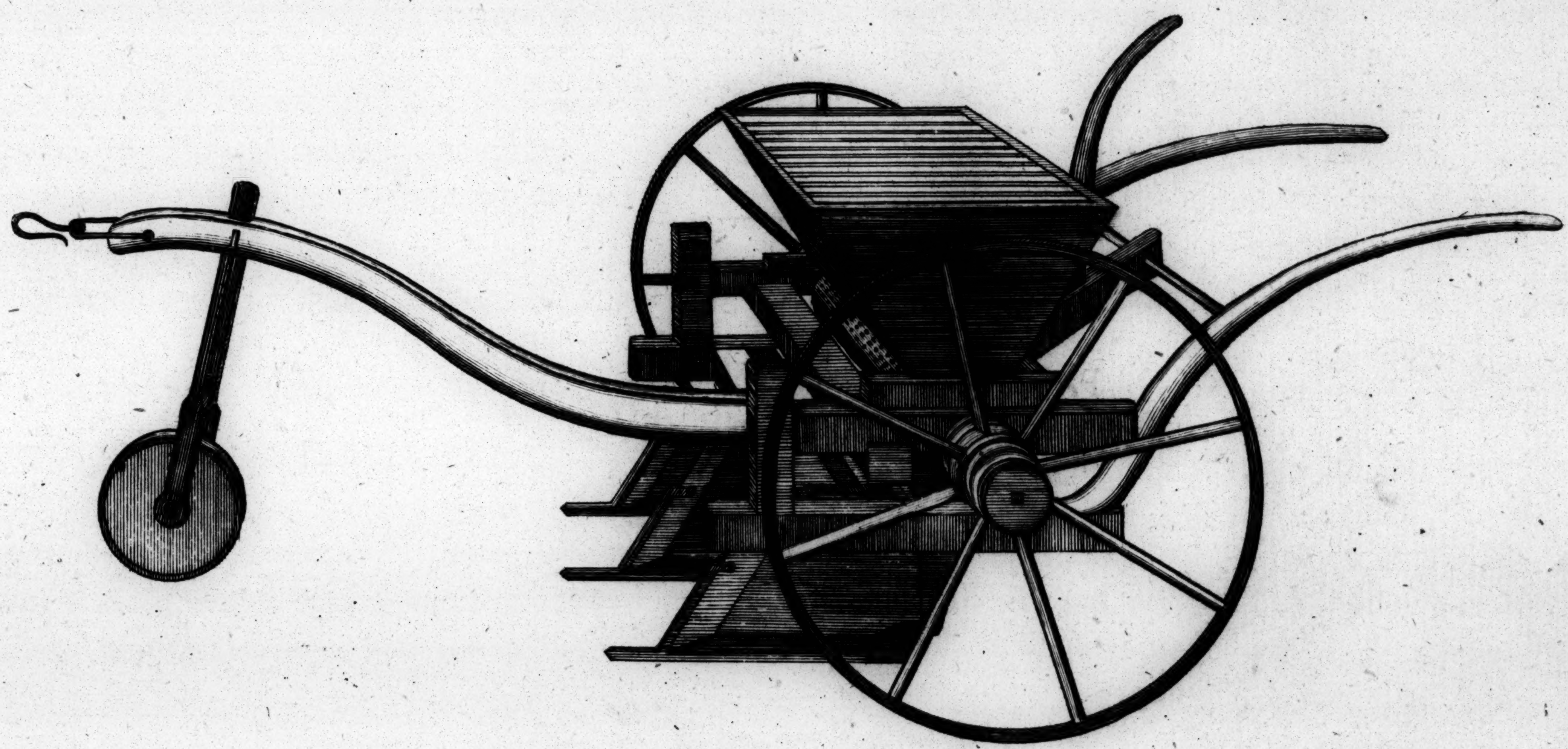
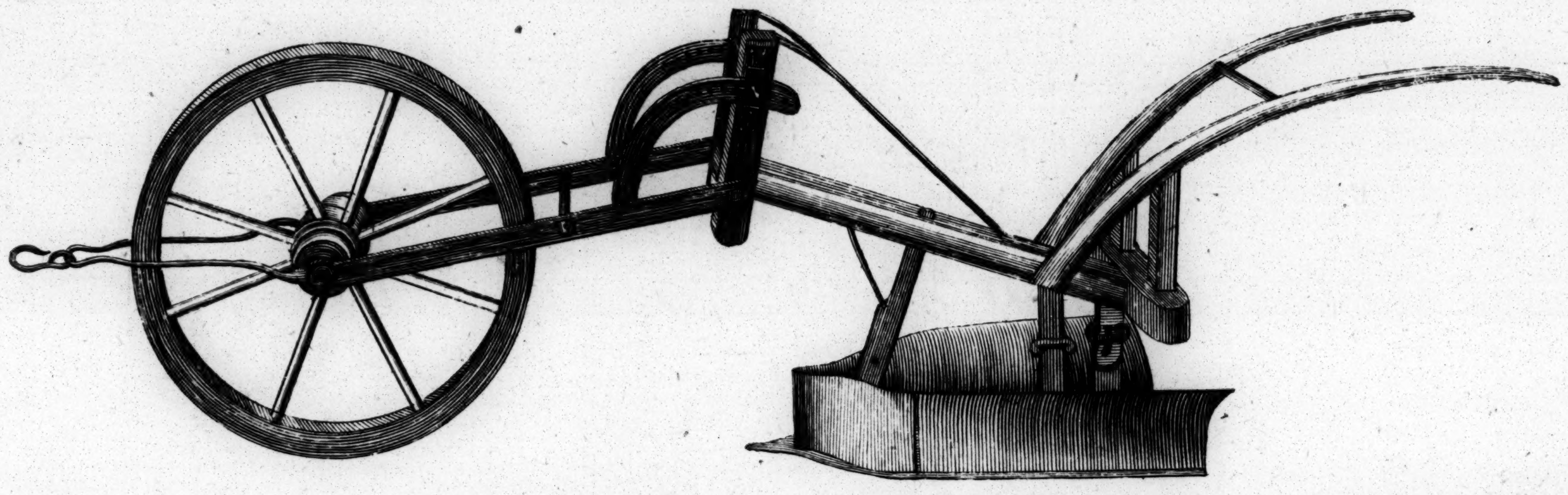


l. *Made by W.^{m} Winlaw, Engine Maker, Margaret Street, Cavendish Square, London.* Longmate sculp.



Dods delin.

Made by Wm Winlaw, Engine Maker, Margaret Street, Cavendish Square London.

Longmate sculp.

the man guides the Plough by, is for throwing the Plough out of her work occaſionally, as when turning at the end of the land or ridge, or going from one field to another; it is performed by pulling the handle downwards, and turning the iron catch over it. The moveable partitions, inſide of the hopper, regulate the diſtance you intend your drills or broad-caſt to be apart.

This Plough excels others in reſpect to the plain principle of its mechanical parts; there is no intricate puzzling machinery uſed to give its neceſſary motion to perform the operation of ſowing regular. Any ploughman can immediately comprehend it; there are no wheels and pinnions, ratchet wheels, cranks, pullies, or cordage, made uſe of, as in moſt of the conſtructions of other Drill Ploughs. Such complex principles in machines, intended for country uſe, ought to be carefully avoided by every projector, as all implements, for whatever uſe they are intended, are liable to be out of repair by wear or accident. Intricate machinery ſerve only to perplex the mechanics in the country, and it frequently happens that it is out of their power to repair the defect; and on that account the machine is rendered uſeleſs to the proprietor.

When the Plough is to be uſed for ſowing, broad-caſt, the ſhares, which make the furrows for drilling, muſt be taken off, and the two frames fixed together by the iron hooks at the ends for that purpoſe.

The Drill Plough, with three or five different detached cylinders on the axle, is regulated by a ſcrew, which fixes them at any diſtance apart that is found neceſſary, and the ſhares are moved by the iron ſcrewed bolts under the cylinders; the hoppers are alſo moveable by the finger-nutt under the ſliding frame, which is to be fixed, as occaſion requires, over the ſhares, that the ſeed may be delivered into the furrows, immediately behind the ſhares, through the ſmall funnels.

A WINNOWING MACHINE *for dreſſing* CORN *from the Threſher; alſo* RAPE-SEED, FLAX-SEED, MUSTARD, *&c.*

IT winnows, riddles, and ſcreens, at one operation, and will finiſh between twenty and thirty buſhels an hour; and will dreſs, in the granary, ten quarters in an hour. It anſwers equally well for malt, and gives an additional brightneſs to the grain, by paſſing through wire ſifters, ſcreens, &c.

A HAND MILL *for grinding Wheat or other Grain, for private Families.*

This Mill grinds a buſhel in an hour, and clears the bran at the ſame time, and becomes an extremely uſeful article to gentlemen who live at a diſtance from wind or water mills, and prevents all fraudulent practices. It may be worked to great advantage by a ſmall ſtream of water, or any other power, ſuch as wind, a horſe, &c.

A DESCRIPTION *of the* JOINTED HORSE-HOE.

THIS Hoe is made to go between the rows or drills, narrower or wider apart, by means of the curved ſtay which the ſtandard ſlides in, and is made faſt at any diſtance required by the finger nutts at the top; there is alſo a ſtay riveted into each ſtandard below, with holes at equal diſtances, which an iron pin paſſes through, to ſtrengthen and ſteady the Hoe; it is intended to be uſed with the mould-plates, or without, as required; they are taken off by

the

the finger ſcrew which fixes them to the ſtandards. The angular plate in front is diſengaged by taking out the iron pin, which paſſes through the fore-ſtandard. The iron earth-plates are ſeldom uſed but when the mould is to be thrown up againſt the roots of the plants or drills. The gage wheel, fixed before the ſhare, is for regulating the depth it is intended to cut under ground, which is done by the quadrant head, and iron bolt behind the wheel.

This Hoe is preferable to others, as it anſwers the end of different ones ; the common kinds being only made for certain ſpaces, and there muſt be ſeveral of them to anſwer the various purpoſes which this Hoe is capable of performing alone, on account of the joints, mould-plates, and gage-wheel.

A PORTABLE WEIGHING ENGINE *for live Cattle, Hay, Straw, Hogſheads, Bales, or any great Weights, from Seven Pounds to Three or Four Tons.*

THIS Engine is contained in a ſmall ſquare box, and is let into the ground to ſuch a depth, that the platform is level with the ſurface, that cattle may eaſily be placed upon it, or caſks rolled thereon, taking care that the end of the bridge does not touch the ground.

DIRECTIONS *for adjuſting the Engine.*

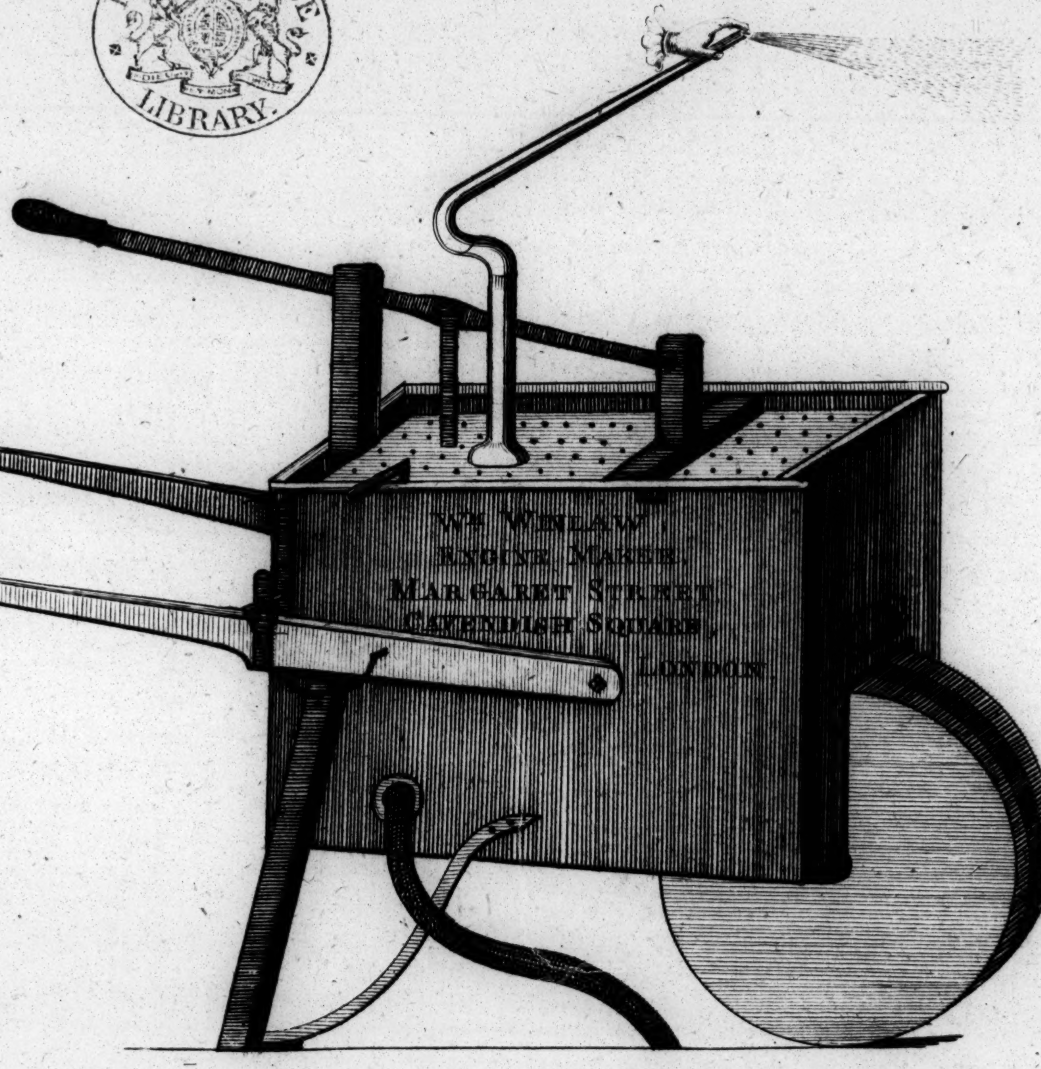
This Engine is not liable to be out of order, though care ſhould be taken to oil the moving parts to prevent friction ; and in caſe that by accident any part ſhould be moved from its proper place, it may be proved and adjuſted, as follows :—if the bucket is too heavy the bridge muſt be lifted out, and the weight upon the long lever moved farther from the center pin, to make the bridge ſomething heavier than the bucket (which it always ſhould be) ſo that by dropping a few grains of ſhot or ſand into the bucket, an exact balance is eaſily made. If one hundred weight, or one hundred and twelve pounds, on the bridge, be exactly balanced by one pound in the bucket, it is right ſo far; after this the proportion muſt be proved by putting two, three, or more hundred weights upon the bridge, which, if as many more pounds in the bucket, do not exactly balance, then the proportion is wrong, and muſt be adjuſted in the following manner :—If the bucket riſes quicker when the load upon the bridge is encreaſed, then the bucket branch muſt be removed farther from the center pin, taking care to faſten the ſcrews firm, after any removal ; but if, on an encreaſe of hundreds on the bridge, and an equal encreaſe of pounds in the bucket, it will not riſe, then the bucket muſt be moved nearer the center pin ; but this need never be done except it has received apparent injury. After this the bridge and bucket muſt again be balanced by the leaden weight, and the Engine will be perfect. Common ſtandard weights are to be uſed ; one pound in the bucket will exactly balance one hundred and twelve pounds on the bridge, and greater or leſs weights in proportion.

An ENGINE WHEEL CARRIAGE, *made upon an entire New Plan, for removing Blocks of Stone, large Timber, Mortars, Cannon, or any other ponderous Body.*

ONE man can load this Carriage without aſſiſtance, and move a block of marble, of three or four tons, with the utmoſt ſafety ; and if made upon a larger ſcale is capable of removing

three

This Engine needs no Fan, the Finger spreads the Water more regularly. Oil the Suction Pipe once a Quarter, also the Piston within the Barrel, & all the Joints occasionally. When you work by the Suction Pipe turn the small Iron Handle, which is on the upper-part of the Covering-Boards to the left hand, & when working without, the contrary. The Handles turn up that in case of Fire in a House a Man or two may carry it up Stairs with the greater Ease.



three times the weight above-mentioned, which may render a Carriage on this principle very uſeful in his Majeſty's Arſenals, where heavy ſtores are kept, it being much ſuperior to the Carriage (now in uſe for thoſe purpoſes) known by the name of Devil. It will alſo be found uſeful in ſtone quarries, for Sculptors carrying their blocks of marble with ſafety, for Stone Maſons, &c. &c. &c.

WATER CLOSETS *made on a New Conſtruction.*

THESE Cloſets are made on a new conſtruction, differing greatly in the mechanical parts from any yet offered to the public, as they effectually anſwer every purpoſe expected from machines of this kind; no offenſive ſmell can poſſibly ariſe from the ceſspools, and by the ſimplicity of the conſtruction are not liable to be anywiſe out of repair, there being no intricate machinery uſed in compleating them; as complex parts, in Water Cloſets, can never anſwer any good purpoſe, therefore a long commendation is here unneceſſary, as the effect will ſoon ſatisfy its utility to the purchaſer. The price Six Guineas, fitted into a frame.

Large ENGINES *of all Kinds for extinguiſhing Fires, and ſmall ditto, for watering Gardens, Bleaching Grounds, &c.*

IN caſe of accidental fires theſe ſmall Engines are very uſeful; they are portable by one or two men, and by that means may be inſtantly conveyed to any room in a houſe, to prevent the progreſs of fire, as large Engines are not eaſily got in readineſs, when ſudden accidents of this kind happens; and water is not at all times to be had in a ſufficient quantity to ſupply them, nor power collected to work them.

Alſo makes ſmall Force Pumps, with braſs barrels, for filling ciſterns for ſerving Water Cloſets, or many other purpoſes, being fitted into proper caſes, ready to be fixed up, and at a ſmall expence. They are much ſuperior to thoſe in common uſe, being more durable and leſs liable to be out of repair.

N. B. All ſorts of Engines for raiſing water out of deep wells, and for ſupplying towns, gentlemens houſes, fiſh ponds, reſervoirs, &c. Leather Pipes, and Buckets, made and repaired on the moſt reaſonable terms.

The Sizes, Performances, and Prices of the Fire Engines and Suction Pipes.

How many Men may be applied to each Engine.		How many Gallons diſcharged per Minute.		At what Number of Yards Diſtance.		Prices with ſeven feet of Suction Pipe.			Prices of Leather Pipe, forty Feet each, with Braſs Screws.		
	Men.		*Gallons.*		*Yards.*		£.	s.		£.	s.
Firſt ſize Fire Engine -	8	Firſt ſize Fire Engine -	70	Firſt ſize Fire Engine -	37	Firſt ſize Fire Engine -	24	0	Firſt ſize Fire Engine	3	4
Second ditto - -	14	Second ditto - -	100	Second ditto - -	40	Second ditto -	34	0	Second ditto -	3	6
Third ditto - -	16	Third ditto - -	120	Third ditto - -	45	Third ditto - -	40	0	Third ditto - -	3	10
Fourth ditto - -	18	Fourth ditto - -	150	Fourth ditto - -	48	Fourth ditto - -	48	0	Fourth ditto -	3	14
Fifth ditto - - -	22	Fifth ditto - -	170	Fifth ditto - -	50	Fifth ditto - -	55	0	Fifth ditto - -	4	0
Sixth ditto - - -	24	Sixth ditto - -	200	Sixth ditto - -	52	Sixth ditto - -	62	0	Sixth ditto -	4	10
Firſt ſize Garden Engine	2	Firſt ſize Garden Engine	30	Firſt ſize Garden Engine	25	Firſt ſize Garden Engine	14	0	Firſt ſize Garden Engine	2	10
Second ditto - -	4	Second ditto - -	50	Second ditto - -	33	Second ditto -	18	0	Second ditto - -	2	18
Hand Engine - -	1	Hand Engine - -	16	Hand Engine - -	12	Hand Eng. (without ſuction)	8	8	Hand Engine - -	2	0

A LIST *of* ARTICLES *in* HUSBANDRY, *&c. Made and Sold by* Wm. WINLAW, Engine Maker, *Margaret-Street, Cavendiſh-Square.*

ENGINES for eradicating corn from the ſtraw in place of threſhing.
Hand Mills for grinding wheat.
Ditto, for ſpliting beans, barley, oats, &c.
Ditto, for bruiſing oats and beans for horſes, malt, &c.
Winnowing Machines for cleaning corn from the threſher.
A Machine for cleaning ſmutty wheat or corn, that has got duſty or mouldy in granaries, &c.
Engines for cutting ſtraw for cattle, ſugar-cane tops, &c.
Drill Ploughs of ſundry conſtructions.
Horſe Hoes of various kinds for cutting the weeds between the rows or drills, and turning up the mould againſt the roots of plants, &c.
Turnip Slicers, alſo for cabbages, potatoes, &c.
An Engine for weighing live cattle, bale goods, or any great weights.
An Inſtrument for cleaning and fining fallow land; it cleans and fines an acre and a half of land in one hour, and may be gaged to cut at any depth required. Invented by a gentleman in Eſſex.

Different Kinds of PLOUGHS *for various Uſes.*

The Rotherham or Yorkſhire Plough.
The Chain or Scots Plough.
The Swing Plough.
The Kentiſh Turnwriſt Plough.
The Improved Turnwriſt, with rack and pinnion, much more convenient than the old one.
The Drag Plough.
The Breaſt Plough, for paring turf.
The Heath Plough, for land where furze grows.
The Double Furrow Plough, for light land.
The Trenching Plough.
The large Drain Plough.
Iron Ploughs for cabbage gardens, &c.
Ploughs for planting potatoes.
Harrows of ſeveral different kinds.
Land and Garden Rollers.
Ditto, Spike Rollers, &c.
Fire Engines of different ſizes.
Ditto, for watering gardens, worked by one man.
Ditto, to be worked by a crank as they are wheeled along.
Engines for raiſing water out of deep wells, on various plans.
Common Lifting and Force Pumps, for ſerving reſervoirs, for water cloſets, &c.
Ditto, to act as fire engines, or common pumps, occaſionally.
Ditto, Engines and Pumps, for brewhouſes, diſtillers, &c.
Ditto, large and ſmall Cranes, proportioned to raiſe weights, from three or four hundred to ſeveral tons, by one man.
Flatting Mills for ſilver, copper, or other metals.
Rolling Preſſes for engravers, &c.
Alſo any Engines, Machines, or Models, which are in the Repoſitory of the Society for the Encouragement of Arts, Manufactures, and Commerce, either in huſbandry or mechanics, may be had, with leave being firſt granted by the Honourable Gentlemen of that Laudable Society.

HAVING been at great expence in trying various experiments to compleat uſeful Implements for public utility, I hope Gentlemen, who are pleaſed to honour me with their commands, will not be offended at my expecting payment on delivery of the goods; the loweſt prices being fixed to each article. All Orders ſhall be thankfully acknowledged, and duly attended to, by

Their obedient humble Servant,

Wm. WINLAW.

24/5/80
2. 5/-

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